In the claims:

1. (Currently amended) A process control system comprising:

~~at least one process control unit~~a programmable logic controller including a program for controlling operation of a process, said ~~process control unit~~ program being adapted to form a ~~a~~ at least one query message comprising a code of a desired image-processing task and parameter values needed for performing the image-processing task,

a data-transfer link for conveying the query message and a reply message,

a ~~video~~ smart camera comprising:~~[,]~~

image-processing software for processing a picture of an object taken by the ~~video~~ smart camera, in accordance with the query message,

an adaptation program coupled to the image-processing software and the data-transfer link, the adaptation program

further adapted to extract the code and the parameter values from the query message received from the data-transfer link, and to transform the code and the parameter values to a form suitable for the image-processing software so that the image-processing software is able to carry out the desired image-processing task;

the adaptation program further adapted to receive the results of the image processing task from the image-processing software and send the results in the reply message via the data transfer link to the process control unit.

2. (Original) The system as in claim 1, wherein one query message includes several codes of the image-processing tasks with their parameter values.

3. (Original) The system as in claim 1, wherein the adaptation program contains several codes of the image-processing tasks, wherein in response to the codes and the attached parameter values the image-processing program is able to carry out the corresponding number of image-processing tasks.

4-5. (Canceled)

6. (Currently Amended) The system as in claim 1, wherein when the process control program needs further information about a the object in the picture ~~picture~~, a query message is formed into which the code identifying the task and the related parametric values are placed.

7. (Currently amended) The system as in claim 1, wherein by changing information to be received from a picture, desired modifications are made only in the program ~~for controlling operation of the process~~of the programmable logic controller.

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8. (Currently amended) The system as in claim 1, wherein any commands concerning image-processing may be included in the program ~~for controlling operation of the process~~of the programmable logic controller, provided that the adaptation program includes the codes identifying the tasks.

9. (Cancelled)

10. (Original) The system as in claim 1, wherein the data transfer link is a field bus.

11. (Original) A smart camera designated for connecting via a data transfer link to a process control system, comprising image-processing software for processing pictures taken by the smart camera and for retrieving desired information from the picture, the smart camera comprising:

an adaptation program containing a number of codes of image-processing tasks, arranged between a data transfer interface and the image-processing software, the codes being related to the image-processing software so that each code with its potential parameter values corresponds to at least one image-processing task performed by the image-processing software; and,

in response to a query message received from the data transfer link the adaptation program extracts from the query message the code of the image-processing task and the parameters needed for performing the task and instructs the image-processing software to carry out the specific at least one image-processing task.

12. (Currently amended) The smart camera as in claim 11, wherein the adaptation program receives the task results from the image-processing software and locates the results into a reply message in accordance with ~~the~~ a data transfer protocol used in the data transfer link.

13. (Currently amended) A method for controlling image processing of a video camera in a process control system having

at least one ~~control unit~~programmable logic controller with a process control program,

a data transfer link,

a video camera with image-processing software for analyzing images taken by the camera,

an adaptation program arranged between the image-processing software and the data transfer link,

the method comprising the steps of:

assigning an individual code to at least one desired image-processing task,

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determining parameters related to the code,

sending from the control unit to the adaptation program a query message containing the code of the image-processing task and the parameter values,

transforming in the adaptation program the codes and the parameters to a form understood by the image-processing software,

instructing the image-processing software to run the at least one task defined by the code and the parametric values, said instructing facilitated by the adaptation program;

placing the task results into a reply message, and

sending the reply message via the data transfer link to the control unit.

14. (Original) The method as in claim 13, wherein modifications made only in the process control program modify the tasks to be performed by the image-processing program.

15. (Original) The method as in claim 13, wherein the picture taken by the video camera is displayed on a monitor and modifications needed for the process control program are made on the basis of the monitor picture.

16. (Currently amended) An adaptation program adapted to operate in conjunction with a video camera coupled to having an image processing software, and programmable control logic, the adaptation program comprising:

a data transfer interface adapted to couple to a data link and receive a code therethrough, said code corresponding to at least one image processing task;

an image processing interface adapted to instruct the image processing software to perform said at least one image processing task responsive to said code, on an image captured by the camera;

a result reception module adapted to receive a result of said image processing task from the image processing software, and construct a response to be transmitted to said control logic via said data link.

17. (Original) The adaptation program of claim 16, adapted to be executed by processing facilities integrated with the camera;

18. (Original) The adaptation program of claim 16, further constructed to perform a plurality of image processing tasks responsive to a single code.

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19. (Original) The adaptation program of claim 16, wherein modifications to said adaptation program cause modifications to the behavior of an assembly comprising the camera and image processing software.

20. (Original) The adaptation program of claim 19 wherein said modifications are initiated remotely to said camera.

21. (Original) The adaptation program of claim 16 wherein the data link comprises a field bus coupled to the programmable control logic, and wherein said code is transmitted by the control logic.

22. (Original) The adaptation control program of claim 16 wherein modifications made only in the process control program modify the tasks to be performed by the image-processing program.

23. (Original) The system as in claim 7, wherein any commands concerning image-processing may be included in the program for controlling operation of the process, provided that the adaptation program includes the codes identifying the tasks.